

***Appl. No. 09/945,393***

**In the Claims**

Claims 1-8, 10-13, 15-33, 35-40, and 42-50 are pending in the application with claim 50 amended herein and claims 8, 10-13, 15-19, 28-33, 39, 40, and 42-44 withdrawn.

1. (previously presented) A dielectric material forming method comprising:  
forming a first monolayer;  
forming a second monolayer on the first monolayer, one of the first and second monolayers comprising tantalum and oxygen and the other of the first and second monolayers comprising oxygen and zirconium; and  
forming a dielectric layer comprising the first and second monolayers, the dielectric layer exhibiting a dielectric constant greater than the first monolayer.
2. (original) The method of claim 1 wherein the first monolayer comprises tantalum and oxygen.
3. (original) The method of claim 1 wherein the second monolayer comprises tantalum and oxygen.
4. (original) The method of claim 1 wherein the first monolayer comprises tantalum pentoxide.
5. (previously presented) The method of claim 1 wherein the other of the first and second monolayers consists of oxygen and zirconium.
6. (original) The method of claim 1 wherein the forming of the dielectric layer comprises annealing.

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7. (original) The method of claim 1 wherein the forming of the first or second monolayer comprises atomic layer depositing.

8. (withdrawn) A dielectric material forming method comprising:  
chemisorbing a first dielectric material on a substrate;  
chemisorbing a second dielectric material on the first material, one of the first and second materials comprising oxygen, titanium, and zirconium; and  
forming an enhanced dielectric material comprising the first and second materials, the enhanced dielectric material exhibiting a dielectric constant greater than the first material.

9. (canceled).

10. (withdrawn) The method of claim 8 wherein the first material comprises oxygen, titanium, and zirconium.

11. (withdrawn) The method of claim 8 wherein the second material comprises oxygen, titanium, and zirconium.

12. (withdrawn) The method of claim 11 wherein the first material comprises tantalum pentoxide.

13. (withdrawn) The method of claim 11 wherein the first material comprises tantalum and oxygen.

14. (canceled).

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15. (withdrawn) The method of claim 8 wherein the one of the first and second materials consists of oxygen, titanium, and zirconium.
16. (withdrawn) The method of claim 8 wherein at least one of the first and second materials consists of a monolayer.
17. (withdrawn) The method of claim 8 wherein the chemisorbing of the first or second material comprises atomic layer depositing.
18. (withdrawn) The method of claim 8 wherein the forming of the enhanced dielectric layer comprises annealing.
19. (withdrawn) The method of claim 8 wherein the enhanced dielectric material further exhibits less current leakage than the first dielectric material.
20. (previously presented) A dielectric material forming method comprising:  
chemisorbing alternated monolayers of a first dielectric material and a second dielectric material over a substrate; and  
providing fewer monolayers of the second material compared to the first material;  
the first material comprising tantalum and oxygen and the second material comprising oxygen and zirconium.
21. (original) The method of claim 20 wherein from about 2% to about 20% of the monolayers comprise second material monolayers.
22. (original) The method of claim 20 further comprising approximately evenly interspersing the second material monolayers among the first material monolayers.

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23. (original) The method of claim 20 further comprising chemisorbing a majority of the second material monolayers on an underlying second material monolayer.

24. (original) The method of claim 20 wherein the first material comprises tantalum pentoxide.

25. (previously presented) The method of claim 20 wherein the second material further comprises titanium.

26. (original) The method of claim 20 wherein the chemisorbing of the monolayers comprises atomic layer depositing.

27. (original) The method of claim 20 further comprising annealing the monolayers.

28. (withdrawn) A dielectric material forming method comprising:  
atomic layer depositing an oxide of zirconium on a first dielectric material comprising tantalum oxide; and  
forming a second dielectric material comprising the zirconium oxide and the first dielectric material.

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29. (withdrawn) The method of claim 28 wherein the atomic layer depositing comprises:
- chemisorbing a zirconium precursor on the first dielectric material;
  - purging chemisorption byproducts and excess zirconium precursor from over the substrate;
  - chemisorbing an oxygen precursor on the chemisorbed zirconium; and
  - purging chemisorption byproducts and excess oxygen precursor from over the substrate, a chemisorption product of the zirconium precursor and the oxygen precursor comprising zirconium oxide.
30. (withdrawn) The method of claim 29 wherein the zirconium precursor comprises  $\text{Zr}(\text{t-butoxide})_4$ .
31. (withdrawn) The method of claim 28 further comprising forming the first dielectric material by atomic layer depositing.
32. (withdrawn) The method of claim 28 wherein the tantalum oxide comprises tantalum pentoxide.
33. (withdrawn) The method of claim 28 wherein the forming of the dielectric layer comprises annealing.
34. (canceled).

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35. (previously presented) A dielectric material forming method comprising:  
atomic layer depositing a plurality of monolayers, each of the plurality of  
monolayers comprising both an oxide of zirconium and tantalum oxide; and  
forming a dielectric material comprising the zirconium oxide and the tantalum  
oxide, the dielectric material exhibiting a dielectric constant greater than that of tantalum  
oxide.
36. (previously presented) A dielectric layer comprising a first monolayer  
comprising tantalum and oxygen and a second monolayer comprising oxygen and  
zirconium, the dielectric layer exhibiting a dielectric constant greater than the first  
monolayer.
37. (original) The dielectric of claim 36 wherein the first monolayer comprises  
tantalum pentoxide.
38. (previously presented) The dielectric of claim 36 wherein the second  
monolayer consists of oxygen and zirconium.
39. (withdrawn) A dielectric material comprising first and second chemisorbed  
materials, the second material comprising oxygen, titanium, and zirconium and the  
dielectric material exhibiting a dielectric constant greater than the first chemisorbed  
material.
40. (withdrawn) The dielectric of claim 39 wherein the first material comprises  
tantalum pentoxide.
41. (canceled).

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42. (withdrawn) The dielectric of claim 39 wherein the second material consists of oxygen, titanium, and zirconium.

43. (withdrawn) The dielectric of claim 39 wherein at least one of the first and second materials consists of a monolayer.

44. (withdrawn) The dielectric of claim 39 wherein the dielectric material further exhibits less current leakage than the first dielectric material.

45. (previously presented) An enhanced dielectric material comprising alternated chemisorbed monolayers of a first dielectric material and a second dielectric material over a substrate, the enhanced dielectric material comprising fewer monolayers of the second material compared to the first material, the first material comprising tantalum and oxygen, and the second material comprising oxygen and zirconium.

46. (original) The dielectric of claim 45 wherein from about 2% to about 20% of the monolayers comprise second material monolayers.

47. (original) The dielectric of claim 45 wherein the second material monolayers are approximately evenly interspersed among the first material monolayers.

48. (original) The dielectric of claim 45 wherein a majority of the second material monolayers contact an underlying second material monolayer.

49. (original) The dielectric of claim 45 wherein the first material comprises tantalum pentoxide.

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50. (currently amended) The dielectric of claim 45 wherein the second material further comprises zirconium titanium.